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ABSTRACT

This study sought to evaluate the effectiveness of a two-quarter, extended orientation program for new, undecided students at the University of California, Irvine (UCI). The course was designed to assist students with the transition from high school to college and acquaint them with strategies to maximize their success at UCI. Of the 690 new, unaffiliated freshmen who entered UCI in fall quarter 1993, 24 enrolled in the extended orientation course for both quarters, 34 enrolled in fall only, 30 enrolled in the winter quarter, and 602 enrolled in neither quarter. The study found that, compared with other unaffiliated students who did not enroll in the extended orientation courses, those who enrolled for one or more quarters obtained significantly higher grade point averages (GPAs) and units completed by the end of spring quarter. Approximately 90 percent of students surveyed who expressed satisfaction with the course said that they would recommend it to other freshmen. (MDM)

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EVALUATING THE EFFECTIVENESS OF EXTENDED ORIENTATION FOR NEW, UNDECIDED FRESHMEN

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EVALUATING THE EFFECTIVENESS OF EXTENDED ORIENTATION FOR NEW UNDECIDED FRESHMEN

A recent national survey of colleges and universities revealed that 71% of the responding institutions currently offered or planned to offer a freshman seminar or colloquium (Barefoot & Fidler, 1992). The most common type of freshman seminar was the extended orientation seminar or orientation course which combined academic study skills, career exploration, and social opportunities. Although the form and format of such orientation programs may vary from campus to campus, most of them share the common purposes of ensuring a successful transition between high school and college life and promoting the academic and social integration of students by providing critical information about the institution and its many academic and social resources (Gordon, 1989).

Several reviews of the research literature on freshman seminars have concluded that there is a significantly positive correlation between participation in freshman seminars and outcomes such as student satisfaction with the college, social integration, academic performance, and knowledge and use of support services (Fidler & Hunter, 1989; Gordon, 1989; Pascarella & Terenzini, 1991). Pascarella and Terenzini (1991) have hypothesized that "if effective, such [freshmen orientation] programs should facilitate academic adjustment and initial social integration, thereby increasing the likelihood of persistence and degree completion" (p. 419). Furthermore, they suggest that longer and more comprehensive programs will tend to have stronger direct effects on persistence (Pascarella & Terenzini, 1991, p. 404).

In their review of studies on the effectiveness of freshman seminars, Fidler and Hunter (1989), concluded that "clearly more and better research is required" (p. 237), especially studies using experimental designs which will eliminate or control for self-selection bias, a problem also noted by Pascarella and Terenzini (1991).

The special challenges of working with new, undecided students have been carefully described by Gordon (1985) who noted these characteristics of undecided students:

1. Undecided students constitute a large number of students, often providing a microcosm of the freshman class.
2. Many undecided students are aware that they need concrete information about their interest areas before making choices; they are usually open to and expect advising assistance in exploring career and major options.
3. Some undecided students require assistance in understanding the decision-making process itself and may need help in identifying and acquiring skills needed to make good decisions.

Gordon noted that the size of the undecided group may be growing on many campuses "as student demand for certain majors becomes intense and many departments limit enrollment because of a shortage of faculty or faculties" (p. 119). Another reason for the increased size of this group among new freshman is that many do not meet the additional admissions requirements for their first choice of major and are thus forced to seek another major once they enroll. For undecided students, freshmen orientation courses, then, can have special significance in the transition between high school and college. As Gordon concluded, "A freshmen orientation course is probably one of the most effective ways of helping entering undecided students begin the exploration process." (p. 132) Such programs provide a structured environment, establish immediate and consistent contact with academic advisors, and provide peer support -- all of which are important to the establishment of social and academic integration.

Objectives

The purpose of this study was to evaluate the effectiveness of a two-quarter, extended

orientation course for new, undecided students. Upon admission to the University of California, new freshmen have the option of declaring a major or coming in as undecided students without a specific major (called unaffiliated at UCI). In addition, some students may be moved to the Unaffiliated Program if they do not qualify for their first choice of major, which may occur for especially popular majors or those requiring additional admissions requirements such as advanced math courses in high school.

At UCI, unaffiliated students currently comprise the largest group of new students (28% of the freshmen class in F94); they are now the largest "major" on campus. These students typically spend one to two years taking a variety of courses fulfilling their general education breadth requirements before declaring a major. Previous studies on unaffiliated students at UCI had shown that these students were less well-prepared academically than other UCI students (i.e., had lower average SAT Verbal and Math scores). In addition, these students were literally "unconnected" from the rest of the students who received academic advising in a specific school or department. In 1993-94, in an effort to improve the advising program for Unaffiliated students, a new, extended orientation program was developed to assist these students with the transition from high school to college, to acquaint them with strategies that would maximize their potential for success at UCI, and to provide them with the information, self-knowledge, and other skills needed to make a decision about a major. It was decided that a two-quarter course combining lecture and discussion, with faculty, professional staff and peer counselors as facilitators and role models, would be the best approach.

Based on a review of the relevant research literature, it was further hypothesized that new, unaffiliated students who attended the extended orientation for one or both quarters would develop skills and attitudes that would positively affect their retention and academic progress by the end of their first year at UCI. In addition, it was hypothesized that course participants

would rate each lecture and discussion session positively and would recommend the course to other new freshmen. Another objective of this study was to demonstrate research methods (namely analysis of covariance and regression) appropriate for comparing non-equivalent groups.

Methods

During summer advising sessions, all newly admitted, unaffiliated freshmen planning to attend the UCI in the fall quarter were invited to participate in a two-quarter course titled "The University Experience: Issues and Options for Unaffiliated/Undecided Students". The course met twice a week (one hour for lecture and one hour for discussion) and carried two units of credit (workload credit only, graded Pass/No Pass). The course was developed by the Dean of Undergraduate Studies and the Unaffiliated academic advising staff. Faculty from various academic units and professional staff members from key campus services were invited to give the lectures while academic counselors and peer advisors led the discussion groups (see Table 4 for a complete list of lecture and discussion topics for each quarter). The first quarter focused on understanding the university and learning to be a university student; taking responsibility for your own learning; becoming acquainted with academic support services; assessing individual learning styles; setting goals and decision-making; and opportunities for student leadership and international education. Assignments included using various campus services and writing about those experiences; interacting with faculty and professional staff; giving a five-minute presentation on a foreign country; and taking a learning styles inventory. In the second quarter, students further developed their long-term academic and career goals with assistance from faculty mentors and systematically explored UCI's different majors through lectures, discussions, student panels, and tours.

For comparison purposes, four groups of new, unaffiliated freshmen were created:

Group 1: Students who enrolled in the orientation course both quarters (BOTH)

Group 2: Students who enrolled in the orientation course fall quarter only (FALL ONLY)

Group 3: Students who enrolled in the orientation course winter quarter only (WINTER ONLY)

Group 4: Students who did not enroll in the course either quarter (NONE).

To determine if the four groups differed on entering characteristics, Chi square and analysis of variance tests were used to compared all four groups on gender, ethnicity, parental income level, home location, admission status, SAT scores, English as a Second Language (ESL) status, and advanced standing units.

Six outcome variables were collected at the end of spring quarter:

1. GPA
2. GPA above 2.00 (good academic standing) or below 2.00 (subject to probation)
3. Number of quarter units completed
4. Normal academic progress, defined by units (36 or more = normal progress, 24-35 = subject to probation, 23 or less = subject to disqualification)
5. Subject A status (completion of entrance requirement in writing)
6. Retention (defined as "still enrolled at end of first year")

To control for non-equivalent comparison groups, analysis of covariance was used to compare groups on GPA (with SAT scores as covariates) and units (with advanced standing units as covariates). Chi square was used to analyze differences on the categorical outcome variables.

An additional analysis, as suggested by Astin (1991), used multiple regression to predict the GPAs of students enrolled in the course. The difference between the obtained mean GPA and the predicted mean GPA can then be interpreted as an estimate of the effectiveness of the course above and beyond what would be expected if they had not taken the course. This

methodology involves developing a regression equation for all students not in the course (predicting cumulative GPA regressed on SAT scores) and then applying the resulting weights to the groups of students who enrolled in the course one or more quarters. Obtained and predicted means were compared using t-tests. As Astin has noted, this is a little used technique which can be a powerful method for assessing the value of a program.

An alpha level of .05 was used for all statistical tests. All analyses were computed using SPSS-PC+, Version 5 (SPSS, 1992). The regression analysis was calculated using the SPSS FORWARD method in which variables are added to the equation one at a time.

Student satisfaction with the course was measured using surveys which asked students to rate each lecture and discussion session on a scale of 1 to 5 (5 = excellent, 4 = very good, 3 = good, 2 = fair, and 1 = poor). To determine if they would recommend the course, they were asked "If a new freshmen would come to you and ask for advice, would you recommend this course to him/her? Yes or No." Additional open-ended questions were asked regarding their expectations for the class, most/least valuable aspect of the course, and which lectures and discussions were most/least helpful.

Results

Of the 690 new, unaffiliated freshmen who entered UCI in fall quarter 1993, 24 enrolled in the extended orientation course both quarters (BOTH), 34 enrolled in fall only (FALL ONLY), and 30 enrolled in winter only (WINTER ONLY); the remaining 602 students did not enroll either quarter (NONE). In terms of entering characteristics, the four groups were found to be statistically equivalent in terms of ethnicity, parental income level, admission status, SAT Math scores, and advanced standing units (see Table 1). However, significant differences were found on gender (Chi square = 12.22, df = 3, $p < .05$), home location (Chi square = 20.83, df = 6, $p < .05$), and SAT Verbal scores ($F = 2.64$, df = 3,663, $p < .05$). Most of the

observed differences among groups could be attributed to the WINTER ONLY group which had a higher proportion of women and of students from Los Angeles County, and a lower mean SAT Verbal score than the other three groups.

Results on the outcome variables are shown in Table 2. Significant group differences were found on academic progress (defined by units) (Chi square = 14.41, df = 6, $p < .05$), UCI GPA ($F = 2.98$, df = 3.608, $p < .05$) and units completed ($F = 5.79$, df = 3,622, $p < .05$). The later two tests were based on analysis of covariance which controlled for initial differences (GPA with SAT scores controlled, and units with advanced standing units controlled). However, no statistical differences were found on retention rates, GPAs above or below 2.00, and Subject A status.

Predicted GPAs were obtained from a multiple regression equation developed on students in the NONE group, using SAT scores as independent variables ($R = .33$, $R^2 = .11$). Actual and predicted GPAs for the three groups who enrolled in the course are shown in Table 3. There was a significant difference between obtained and predicted mean GPAs for the WINTER ONLY group ($t = 3.11$, df = 27, $p < .05$). Similarly, when all three groups were combined (students who took the course at least one quarter), there was a significant difference between the obtained and predicted means ($t = 2.99$, df = 83, $p < .05$).

Results from the student satisfaction surveys are displayed in Table 4. All lectures and discussions received a mean rating between 2.5 and 4.5. The topics rated most highly were those which had the most direct and immediate personal impact, such as "assessment of learning styles" (4.5), "de-stress techniques" (4.5), "creating your own environment" (4.3), "globalize yourself" (4.2), "follow-up on a particular field of study" (4.2), and "round table: what are the next steps for me?" (4.0). In the first quarter, lectures were rated slightly higher than the discussion sessions, but the reverse was true in the second quarter where the discussions (usually

led by an academic advisor or a student panel) were typically rated higher than the corresponding lecture by a faculty member who presented an overview of an academic unit and its majors. Approximately 90% of the survey respondents in both quarters indicated that they would recommend the course to other new freshmen.

Discussion

Compared with other unaffiliated students who did not enroll in the extended orientation courses, those who enrolled for one or more quarters obtained significantly higher GPAs and units completed by the end of spring quarter. In addition, for the WINTER ONLY group and the combined group (attended the course either or both quarters), their obtained average GPAs were higher than those that would have been expected if they had not participated in the course. Other indicators, such as retention rates and percent of students who GPAs above or below 2.00, although not statistically significant, showed results in the right direction -- that is, favoring the students who enrolled in the course. No impact was found in relation to Subject A status.

Students also expressed satisfaction with the course; approximately 90% of those responding to a student satisfaction survey concluded that they would recommend the course to another new freshmen. The ratings also indicated higher levels of satisfaction with topics and activities directly and immediately relevant to the students themselves.

Since this was not a controlled experiment with random assignment to experimental and control groups, we cannot with any certainty conclude that the positive results observed here were due solely to enrollment in the orientation course. As noted by Pascarella and Terenzini (1991), students who elect to participate in such programs may have higher levels of institutional commitment to begin with, which in turn may confound the relationship between orientation programs and persistence in college. However, this study utilized two statistical methods to control for initial group differences, both of which showed positive results. Thus, the results

presented here look promising and are in the right direction, favoring those who attended the course over those who did not, and showing its potential effectiveness for similar groups of students.

Significance of the Study

This study is significant for several reasons. First, it describes the content of a two-quarter extended orientation course for new, undecided students which may be helpful to others planning such courses. Although freshmen orientation courses may be found at many colleges, it is unusual to find one that extends over two quarters. Second, the course is showing positive results within its first and formative year. Unaffiliated students attending the course for one or more quarters obtained significantly higher GPAs and units by the end of the freshmen year. In addition, their GPAs were higher than expected based on what could be predicted from SAT scores. Other indicators, such as retention rates, although not significantly higher, were in the right direction and favored those in the orientation course. Third, these evaluation results have already been used in an administrative decision to expand the program next year to all unaffiliated students. And finally, it uses statistical techniques not commonly found in evaluation studies of freshman orientation programs (notably, the comparison between obtained and predicted GPAs and analyses of covariance).

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Table 1
Student Characteristics at Beginning of Fall Quarter, 1993
(n = 690)

	Enrollment in Orientation Course							
	Both F & W (n = 24)		Fall Only (n = 34)		Winter Only (n = 30)		None (n = 602)	
Characteristic	n	%	n	%	n	%	n	%
Gender								
Women	15	62.5%	18	52.9%	24	80.0%	296	49.2%
Men	9	37.5	16	47.1	6	20.0	306	50.8%
Ethnicity								
SAA (Minority)	4	16.7%	4	11.8%	8	26.7%	105	17.4%
Asian	15	62.5	23	67.6	15	50.0	337	56.0
White	4	16.7	6	17.6	5	16.7	120	19.9
Other	1	4.2	1	2.9	2	6.7	40	6.6
Parental Income Level								
Low income	9	37.5%	8	23.5%	10	33.3%	152	25.2%
Not low inc.	15	62.5	26	76.5	20	66.7	450	74.8
Home Location								
LA County	13	54.2%	17	50.0%	17	56.7%	282	46.8%
Orange County	5	20.8	4	11.8	5	16.7	220	36.5
Other	6	25.0	13	38.2	8	26.7	100	16.6
Admissions Status								
Spec. Action	0	0.0%	2	5.9%	5	16.7%	34	5.6%
Regular Admit	24	100.0	32	94.1	25	83.3	568	94.4
English As A Second Language Status								
ESL	1	4.2%	3	8.8%	6	20.0%	46	7.6%
Non-ESL	23	95.8	31	91.2	24	80.0	556	92.4
SAT Math								
Mean		545		559		557		575
SD		60		88		98		100
SAT Verbal								
Mean		471		425		414		456
SD		73		94		82		103
Advanced Standing Units								
Mean		7.44		5.68		4.22		5.00
SD		6.85		7.52		6.31		7.77

Results from significance tests:

Variable	Chi Square	df	p value
Gender	12.22	3	.007*
Ethnicity	4.46	9	.879
EOP	2.78	3	.428
Admit Status	7.78	3	.050
Home Location	20.83	6	.002*
ESL	6.39	3	.094

ANOVA:

Variable	F value	df	p value
SAT Math	1.17	3,663	.321
SAT Verbal	2.64	3,663	.048*
AS Units	.97	3,686	.406

* p < .05

Table 2
Academic Progress at End of Spring Quarter, 1994
(n = 690)

Academic Outcome	Enrollment in Orientation Course: Both F & W (n = 24) n	%	Fall Only (n = 34) n	%	Winter Only (n = 30) n	%	None (n = 602) n	%
Retention Rates								
Enrolled	23	95.8%	34	100.0%	28	93.3%	542	90.0%
Not Enrolled	1	4.2	0	0.0	2	6.7	60	10.0
Academic Progress by Units								
Normal	23	100.0%	31	91.2%	28	100.0%	440	81.2%
Subj to Prob	0	0.0	3	8.8	0	0.0	64	11.8
Subj to Disqual	0	0.0	0	0.0	0	0.0	38	7.0
UCI GPA								
Above 2.00	21	91.3%	32	94.1%	25	89.3%	488	90.0%
Below 2.00	2	8.7	2	5.9	3	10.7	54	10.0
Subject A (Writing) Status								
Satisfied	21	91.3%	29	85.3%	28	100.0%	485	89.5%
Not Satisfied	2	8.7	5	14.7	0	0.0	57	10.5
UCI GPA								
Mean		2.83		2.79		2.97		2.74
SD		.51		.50		.60		.59
Quarter Units Completed								
Mean		54.09		47.57		48.15		44.73
SD		10.06		10.17		9.69		13.76

Results from significance tests:

Variable	Chi Square	df	p value
Retention	4.86	3	.183
Progress/Units	14.41	6	.025*
UCI GPA (cat)	.67	3	.881
Subject A	4.05	3	.256

ANCOVA:

Variable	F value	df	p value
UCI GPA	2.98	3,608	.031*
Units	5.79	3,622	.001*

* p < .05

Table 3
Actual and Predicted Mean UCI GPAs, Spring 94
(Regression Analysis Using SAT Verbal and Math Scores)
$R = .33$, $R^2 = .11$

Group	Actual	Predicted	t value	df	p
Fall and Winter	2.83	2.74	.86	22	.401
Fall Only	2.79	2.69	1.19	32	.241
Winter Only	2.97	2.67	3.11	27	.004*
Fall or Winter or Both	2.86	2.70	2.99	83	.004*

* p < .05

Table 4
Student Satisfaction Surveys
Fall Quarter (n = 58)

Week	Format	Topic	Mean Rating
1	L	Taking responsibility for your education	3.7
1	D	Tools for learning (library)	3.1
2	L	Professors: myths and realities	3.8
2	D	Student/faculty interactions: role play	3.6
3	L	Understanding the university	3.2
3	D	Understanding university policies and procedures	3.5
4	L	Assessment of individual learning styles	4.5
4	D	Differences in learning styles	3.8
5	L	Implications of learning styles assessment	4.0
5	D	Goal setting/decision making - transferable skills	3.5
6	L	Diversity and its importance	3.7
6	D	UCI's cultural diversity	3.5
7	L	Post mid-term/paper blues	3.5
7	D	De-stress (relaxation techniques)	4.5
8	L	Creating your own environment	4.3
8	D	Opportunities for creating your own environment	3.4
9	L	Leadership roles	3.8
9	D	Student leadership opportunities	3.7
10	L	Globalize yourself	4.2
10	D	International education	3.9
Recommend course to another freshman?		Yes: 89%	No: 11%

Winter Quarter (n = 60)

Week	Format	Topic	Mean Rating
1	L	School of Biological Sciences	3.0
1	D	The who, what, and why's of Bio Sci	3.3
2	L	(Holiday, no class)	--
2	D	Interdisciplinary Studies	3.8
3	L	School of Physical Sciences	3.6
3	D	What's happening in Physical Sciences	4.0
4	L	School of Humanities	3.3
4	D	Fact or fiction?	3.8
5	L	Department of Information/Computer Science	3.2
5	D	Computers, education, and you	2.5
6	L	School of Social Sciences	3.7
6	D	Opportunities in Social Sciences	3.9
7	L	(Holiday, no class)	--
7	D	School of Fine Arts	3.7
8	L	School of Engineering	3.7
8	D	Visit to engineering labs	3.4
9	L	School of Social Ecology	3.5
9	D	Tour of Social Ecology labs	3.9
10	L	Follow-up on a particular field of study	4.2
10	D	Round table: what are the next steps for me?	4.0
Recommend course to another freshman?		Yes: 91%	No: 9%

Format: L = Lecture, D = Discussion
Rating scale: 5 = excellent, 4 = very good, 3 = good, 2 = fair, 1 = poor